

CLAIMS

1. A fluorine-containing copolymer obtained by copolymerizing tetrafluoroethylene, hexafluoropropylene and optionally perfluoro vinyl ether as component monomers,
5 wherein a weight ratio of tetrafluoroethylene, hexafluoropropylene and perfluoro vinyl ether units constituting said fluorine-containing copolymer is 70 to 95 : 5 to 20 : 0 to 10, respectively;
10 said fluorine-containing copolymer having:
a melt flow rate of 30 (g/10 minutes) or more;
a volatile content index of 0.2 % by weight or less; and
a stress relaxation modulus $G(t)$ (unit: dyn/cm²) which satisfies the following formula at $t = 0.1$ second when measured
15 at a temperature of 310 °C:
$$G(0.1) > 7 \times 10^6 \times X^{-1.62} - 3000$$

where X denotes the melt flow rate (unit: g/10 minutes).
2. The fluorine-containing copolymer as claimed in
20 claim 1, having a stress relaxation modulus $G(t)$ (unit: dyn/cm²) which satisfies the following formula at $t = 0.1$ second when measured at a temperature of 310 °C:
$$G(0.1) > 7 \times 10^6 \times X^{-1.62}$$

where X denotes the melt flow rate (unit: g/10 minutes).
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3. A fluorine-containing copolymer obtained by copolymerizing tetrafluoroethylene, hexafluoropropylene and optionally perfluoro vinyl ether as component monomers,
wherein a weight ratio of tetrafluoroethylene,
30 hexafluoropropylene and perfluoro vinyl ether units constituting said fluorine-containing copolymer is 70 to 95 : 5 to 20 : 0 to 10, respectively;
said fluorine-containing copolymer having:
a melt flow rate of 30 (g/10 minutes) or more;
35 a volatile content index of 0.2 % by weight or less; and

a stress relaxation modulus $G(t)$ (unit: dyn/cm²) which satisfies the following formula at $t = 0.1$ second when measured at a temperature of 310 °C:

$$G(0.1) > 7 \times 10^6 \times X^{-1.6143} - 3000$$

5 where X denotes the melt flow rate (unit: g/10 minutes).

4. The fluorine-containing copolymer as claimed in claim 3, having a stress relaxation modulus $G(t)$ (unit: dyn/cm²) which satisfies the following formula at $t = 0.1$ second when
10 measured at a temperature of 310 °C:

$$G(0.1) > 7 \times 10^6 \times X^{-1.6143}$$

where X denotes the melt flow rate (unit: g/10 minutes).

5. The fluorine-containing copolymer as claimed in
15 claim 1, 2, 3 or 4, having a melting point of from 245 to 280 °C.

6. The fluorine-containing copolymer as claimed in claim 1, 2, 3, 4 or 5, having a melt flow rate of from 30 to
20 50 (g/10 minutes).

7. The fluorine-containing copolymer as claimed in claim 1, 2, 3, 4, 5 or 6, having volatile content index of 0.15 % by weight or less.

25 8. The fluorine-containing copolymer as claimed in claim 1, 2, 3, 4, 5, 6 or 7, having a weight ratio of tetrafluoroethylene, hexafluoropropylene and perfluoro vinyl ether units of 75 to 95 : 5 to 20 : 0 to 5, respectively.

30 9. An insulating material comprising the fluorine-containing copolymer as claimed in claim 1, 2, 3, 4, 5, 6, 7 or 8.

35 10. An insulated cable comprising a core conductor coated with an insulating material comprising the

fluorine-containing copolymer as claimed in claim 1, 2, 3, 4,
5, 6, 7 or 8.

11. A method of insulating cable or wire
5 which comprises extrusion coating cable or wire with the
fluorine-containing copolymer as claimed in claim 1, 2, 3, 4,
5, 6, 7 or 8.